

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application.

Listing of Claims:

1. (Currently Amended) A hermetic compressor storing oil in a hermetic container and accommodating a compression mechanism for compressing refrigerant gas,

wherein the compression mechanism comprises:

a crank shaft disposed in vertical direction, and having a main shaft and an eccentric shaft,

a block forming a cylinder,

a piston making a reciprocating motion in the cylinder, and having a top surface and a skirt surface, both vertical to a direction of the reciprocating motion,

a connecting rod for coupling the eccentric shaft and the piston, and

an oil supply system for supplying the oil to an outer circumference of the piston,

grooves are provided at an upper side and a lower side of the outer circumference of the piston, and

an outer shape of the grooves communicating with a space in the hermetic container at least when the piston is in a bottom dead center is a shape not forming a parallel line to an axial center of the piston when the grooves are developed in a plane,

wherein the outer shape of the grooves is a closed semicircular shape extending toward a skirt side of the piston, and the semicircular shape includes a first outer shape extending toward the skirt side of the piston, a second outer shape parallel to the top surface of the piston, and a third outer shape linking the first outer shape and the second outer shape, and a curvature of the first outer shape is smaller than that of the third outer shape, a width of the grooves being greater at an upper portion thereof, and

the groove enclosed by the first outer shape communicates at least with the space in the hermetic container when the piston is in the bottom dead center.

2. (Currently Amended) The hermetic compressor of claim 1,

wherein all of the outer shape of the grooves are shapes not forming the a parallel line to the axial center of the piston when the grooves are developed in a plane.

3. (Original) The hermetic compressor of claim 1,

wherein a depth of the grooves from the outer circumference of the piston is not smaller than 50 μm but not greater than 400 μm .

4. (Cancelled)

5. (Original) The hermetic compressor of claim 1,

wherein the refrigerant gas is gas of hydrocarbon refrigerant.

6. (Currently Amended) A hermetic compressor storing oil in a hermetic container and accommodating a compression mechanism for compressing refrigerant gas,

wherein the compression mechanism comprises:

a crank shaft disposed in vertical direction, and having a main shaft and a eccentric shaft,

a block forming a cylinder,

a piston making a reciprocating motion in the cylinder, and having a top surface and a skirt surface, both vertical to a direction of the reciprocating motion,

a connecting rod for coupling the eccentric shaft and the piston, and

an oil supply system for supplying the oil to an outer circumference of the piston,

grooves are provided at an upper side and a lower side of the outer circumference of the piston,

the grooves include a first groove portion extending toward a skirt side of the piston, and a second groove portion extending toward a top side of the piston, said first and second groove portions having a closed semicircular shape, and

the outer shape of the first groove portion is curved, a width of the first groove portion being greater at an upper portion thereof, and the first groove portion communicates with a space in the hermetic container at least when the piston is in a bottom dead center.

7. (Previously Presented) The hermetic compressor of claim 1, wherein the outer shape of the groove including the first outer shape, the second outer shape, and the third outer shape is a curved shape to be gradually increased in sliding width toward the skirt direction of the piston.

8. (Previously Presented) The hermetic compressor of claim 1, wherein a through-hole is disposed at about the center of the grooves.

9. (Previously Presented) The hermetic compressor of claim 6, wherein the outer shape of the first groove portion is a curved shape to be gradually increased in sliding width toward the skirt direction of the piston.

10. (Previously Presented) The hermetic compressor of claim 6, wherein a through-hole is disposed at about the center of the grooves.

11. (Currently Amended) A hermetic compressor storing oil in a hermetic container and accommodating a compression mechanism for compressing refrigerant gas,

wherein the compression mechanism comprises:

a crank shaft disposed in vertical direction, and having a main shaft and an eccentric shaft,

a block forming a cylinder,

a piston making a reciprocating motion in the cylinder, and having i) a top surface and a skirt surface, both vertical to a direction of the reciprocating motion and ii) a through-hole,

a connecting rod for coupling the eccentric shaft and the piston at the through-hole of the piston, and

an oil supply system for supplying the oil to an outer circumference of the piston,

grooves are provided at an upper side and a lower side of the outer circumference of the piston and disposed around the through-hole, and

an outer shape of the grooves communicating with a space in the hermetic container at least when the piston is in a bottom dead center is a shape not forming a parallel line to an axial center of the piston when the grooves are developed in a plane,

wherein the outer shape of the grooves is a contiguous semicircular shape extending toward a skirt side of the piston, and the semicircular shape includes a first outer shape extending toward the skirt side of the piston, a second outer shape parallel to the top surface of the piston, and a third outer shape linking the first outer shape and the second outer shape, and a curvature of the first outer shape is smaller than that of the third outer shape, a width of the grooves being greater at an upper portion thereof, and

the groove enclosed by the first outer shape communicates at least with the space in the hermetic container when the piston is in the bottom dead center.

12. (Currently Amended) A hermetic compressor storing oil in a hermetic container and accommodating a compression mechanism for compressing refrigerant gas,

wherein the compression mechanism comprises:

a crank shaft disposed in vertical direction, and having a main shaft and an eccentric shaft,

a block forming a cylinder,

a piston making a reciprocating motion in the cylinder, and having a top surface and a skirt surface, both vertical to a direction of the reciprocating motion,

a connecting rod for coupling the eccentric shaft and the piston, and

an oil supply system for supplying the oil to an outer circumference of the piston,

grooves are provided at an upper side and a lower side of the outer circumference of the piston,

a sliding surface is provided all around a skirt side of the piston, and

an outer shape of the grooves communicating with a space in the hermetic container at least when the piston is in a bottom dead center is a shape not forming a parallel line to an axial center of the piston when the grooves are developed in a plane,

wherein the outer shape of the grooves is a closed semicircular shape extending toward the skirt side of the piston, and the semicircular shape includes a first outer shape extending toward the skirt side of the piston, a second outer shape parallel to the top surface of the piston, and a third outer shape linking the first outer shape and the second outer shape, and a curvature of the first outer shape is smaller than that of the third outer shape, a width of the grooves being greater at an upper portion thereof, and

the groove enclosed by the first outer shape communicates at least with the space in the hermetic container when the piston is in the bottom dead center.

13. (Previously Presented) The hermetic compressor of claim 1,

wherein the second outer shape has a length greater than a radius of the piston.

14. (Previously Presented) The hermetic compressor of claim 1,

wherein the first outer shape is inverted with respect to the second outer shape.

15. (Previously Presented) The hermetic compressor of claim 11,

wherein the second outer shape has a length greater than a radius of the piston.

16. (New) The hermetic compressor of claim 6, wherein the first groove portion and the second groove portion are separated by a boundary line which passes through a widest portion of the groove in a circumferential direction and an axial length of the first groove portion is larger than an axial length of the second groove portion.

17. (New) The hermetic compressor of claim 7, wherein the third outer shape links the first outer shape and the second outer shape, the first groove portion and the second

groove portion is separated by a boundary line which passes through middles of the third outer shapes, and an axial length of the first groove portion is larger than an axial length of the second groove portion.

18. (New) The hermetic compressor of claim 17, wherein the first groove portion has a gradually reducing depth from the boundary line to the first outer shape and the second groove portion has a gradually reducing depth from the boundary line to the second outer shape.